

REMARKS

Reconsideration of the above-identified application in view of the following remarks is requested. Claim 1 has been amended to recite that the thickness of the rigid layer is 0.6 to 2 mm. Claim 19-27 have been added. Support for the amendment to claim 1 and new claims 19-27 is found at, for example, page 12, lines 7-10; Examples 1-3; and original claims 2-4 and 6-10. Claims 1-4, 6-13, and 15-27 are pending and at issue.

Claims 1-4, 6-13 and 15-18 have been rejected under 35 U.S.C. §103(a) as obvious over Nemoto (U.S. Patent No. 6,102,465) in view of Nagata (U.S. Patent No. 6,312,542).

Pending claim 1 of the present invention requires (a) that the average of the longitudinal tensile strength and the transverse tensile strength (hereinafter referred to as the “average tensile strength”) of the rigid layer is higher than 150 N/50 mm width, and (b) that the thickness of the rigid layer is 0.6 to 2 mm. Because of the high average tensile strength and the thinness of the rigid layer, the nonwoven fabric-laminate of the present invention is not only rigid but also lightweight.

1. Neither Nagata nor Nemoto Disclose or Suggest a Rigid Layer Having a Thickness of 0.6 to 2 mm

Nagata discloses a fibrous acoustical material for reducing noise transmission, comprising three different fibers and having an average apparent density of from 0.01 to 0.8 g/cm³ (see Abstract of Nagata). The thickness of the fibrous acoustical material is from 2 to 80 mm (see claim 1 and column 6, lines 9-16 of Nagata). Nagata does not disclose or suggest a thickness for the component layers of the fibrous acoustical material. In contrast, claim 1 of the present invention recites a rigid layer of 0.6 to 2 mm thickness.

Nagata teaches that if a thickness of the fibrous acoustical material is less than 2 mm, the fibrous acoustical material "may become inferior in aeration resistance and sound absorption capability" (Nagata, column 6, lines 11-16). Therefore, Nagata teaches away from a fibrous acoustical material having a thickness less than 2 mm. Nagata seeks to absorb noise, and a person of ordinary skill in the art would not be motivated to prepare a rigid layer of less than 2 mm thickness based on the teachings therein.

Nemoto discloses a floor carpet (5) for an automotive vehicle comprising two sound absorbing materials, i.e., a sound absorbing material (12) formed of an unshaped polyester fiber mixture or body which is formed by mixing polyester fibers and polyester binder fibers, and another sound absorbing material (13) formed of a single fiber body or a fiber mixture (see Figure 1 and column 4, lines 25-45, of Nemoto). Nemoto is silent as to the thickness of the sound absorbing materials contained in the floor carpet.

In fact, the Examiner states that "Nemoto appears to be silent with respect to thickness of the layers" (Office Action dated March 1, 2002, paragraph 6, page 4). The Examiner contends, however, that modification "would have been motivated by the desire to optimize sound absorption properties" (Office Action dated March 1, 2002, paragraph 6, page 4). Nagata, however, explicitly teaches that fibrous materials in automobiles should have a thickness greater than 2 mm to ensure sufficient sound absorption capability. Therefore, in view of the prior art as a whole, a skilled artisan would not be motivated to form a fibrous material having a thickness of 0.6 to 2 mm as recited in the pending claims.

2. Nemoto and Nagata Do Not Teach or Suggest An Average Tensile Strength of 150 N/50 mm Width or Greater

Neither Nemoto nor Nagata disclose or suggest a merely-entangled nonwoven fabric having an average tensile strength of not less than 150 N/50 mm as recited in the pending claims. Further neither Nemoto nor Nagata disclose or suggest the advantageous effects obtainable from including a merely-entangled nonwoven fabric having an average tensile strength of not less than 150 N/50 mm in a nonwoven fabric-laminate, i.e., the fact that the nonwoven fabrics-laminate of the present invention exhibits superior rigidity while being light weight.

The Examiner reiterates "the position" that it would have been obvious to increase the tensile strength of Nemoto. Applicant's note, however, that such motivation is not found in either Nemoto or Nagata. The sound absorbing materials in Nemoto and Nagata do not require rigidity. There is no motivation for those skilled in the art to modify the "sound absorbing materials" in the floor carpet disclosed in Nemoto or "the fibrous acoustical material" disclosed in Nagata to the fabric laminate comprising a rigid layer, with a merely-entangled nonwoven fabric having the average tensile strength recited in claim 1.

In contrast, the acoustic absorbing materials of Nagata and Nemoto provide motivation to *decrease* their average tensile strengths. A high average tensile strength results from fibers having a high degree of entanglement (see page 4, lines 7-10 of the present specification). When the degree of the entanglement is high, the degree of freedom of the constituent fibers is low. This results in a material having poor sound absorption. In other words, a high average tensile strength results in poor noise insulation. Since the materials described in Nemoto and Nagata are intended to be used for sound absorption, a person of ordinary skill in the art would not be

motivated to include a merely-entangled nonwoven fabric having a high average tensile strength (i.e., a tensile strength of not less than 150 N/50 mm) in the materials described therein.

For the foregoing reasons, Nemoto and Nagata fail to render obvious the presently claimed invention.

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Respectfully submitted,

By 

Jay P. Lessler

Registration No.: 41,151

DARBY & DARBY P.C.

P.O. Box 5257

New York, New York 10150-5257

(212) 527-7700

(212) 753-6237 (Fax)

Attorneys/Agents For Applicant